

IN THE CLAIMS

Claim 1 (currently amended). Pressure-sensitive adhesive based on polyurethane, characterized in that the polyurethane is composed of the following starting materials which are reacted with one another in the stated proportions **comprising the reaction product of:**

- a) at least one aliphatic or alicyclic diisocyanate having in each case an asymmetrical molecular structure,
- b) a combination of at least one polypropylene glycol diol and at least one polypropylene glycol triol,

the ratio of the number of hydroxyl groups in the diol component to the number of hydroxyl groups in the triol component being between 0.7 and 9.0, preferably between 1.5 and 2.5, ;

additionally the ratio of the number of isocyanate groups to the total number of hydroxyl groups being between 0.9 and 1.1, preferably between 0.95 and 1.05,

and the diols and triols alternatively being selected and combined in each case as follows:

- diols having a molecular weight of less than or equal to 1000 are combined with triols whose molecular weight is greater than 1000, preferably greater than or equal to 3000,
- diols having a molecular weight of greater than 1000 are combined with triols whose molecular weight is less than 1000.

Claim 2 (currently amended). Pressure-sensitive adhesive according to Claim 1, characterized in that the diisocyanate is **wherein said at least one aliphatic or alicyclic diisocyanate is selected from the group consisting of 1-**

isocyanatomethyl-3-isocyanato-1,5,5-trimethylcyclohexane (isophorone diisocyanate), 1-methyl-2,4-diisocyanatocyclohexane, 1,6-diisocyanato-2,2,4-trimethylhexane, 1,6-diisocyanato-2,4,4-trimethylhexane, 5-isocyanato-1-(2-isocyanatoethyl-1-yl)-1,3,3-trimethylcyclohexane, 5-isocyanato-1-(3-

isocyanatoprop-1-yl)-1,3,3-trimethylcyclohexane, 5-isocyanato-1-(4-isocyanatobut-1-yl)-1,3,3-trimethylcyclohexane, 1-isocyanato-2-(3-isocyanatoprop-1-yl)cyclohexane, 1-isocyanato-2-(2-isocyanatoeth-1-yl)cyclohexane, dicyclohexylmethane 2,4'-diisocyanate, 2-heptyl-3,4-bis(9-isocyanatononyl)-1-pentylcyclohexane, ethylethylene diisocyanate, 2,2,4-trimethylhexamethylene diisocyanate or a chlorinated **diisocyanates having an asymmetrical molecular structure**, brominated **diisocyanates having an asymmetrical molecular structure**, sulphur-containing **diisocyanates having an asymmetrical molecular structure** or **and** phosphorus-containing diisocyanates having an asymmetrical molecular structure, preferably isophorone diisocyanate.

Claim 3 (currently amended). Pressure-sensitive adhesive according to Claim 1 or 2, characterized in that **further comprising** formulating ingredients, such as **selected from the group consisting of** catalysts, ageing inhibitors (antioxidants), light stabilizers, UV absorbers, **and** rheological additives, and also other auxiliaries and additives, are admixed.

Claim 4 (currently amended). Process for preparing a **the** pressure-sensitive adhesive according to at least one of the preceding claims, where **of claim 1, comprising**

- a) **charging a first** vessel A is charged substantially with the **a premixed combination of at least one** polypropylene glycol **diol and at least one polypropylene glycol triol** combination (polyol component) and a **and charging a second** vessel B is charged substantially with the **with at least one aliphatic or alicyclic diisocyanate** isocyanate component, it being possible for the further formulating ingredients further to have been mixed into these components beforehand in a standard mixing procedure, **optionally also charging said first or second vessel, or both of said vessels, with one or more formulating ingredients selected from the group consisting**

of catalysts, ageing inhibitors (antioxidants), light stabilizers, UV absorbers and rheological additives.

- b) conveying the polyol component and the isocyanate component are conveyed from said vessels via precision pumps through the a mixing head or mixing tube of a multi-component mixing and metering unit, ~~where they are homogeneously mixed and consequently reacted~~ and mixing them to form a reactive polyurethane composition,
- c) ~~the chemically inter-reactive components mixed in this way are applied immediately thereafter~~ applying the reactive polyurethane composition to a web-form backing material ~~which is preferably moving at a constant speed,~~
- d) passing the backing material ~~coated with the reactive polyurethane composition~~ thereon ~~is passed through a heating tunnel in which the~~ reactive polyurethane composition cures to give the form a pressure-sensitive adhesive, and
- e) winding finally the ~~coated backing material is wound~~ with the pressure-sensitive adhesive thereon up in a winding station.

Claim 5 (currently amended). ~~Process for preparing a pressure-sensitive adhesive according to at least one of the preceding claims, characterized in that~~ according to claim 4, wherein the preparation takes place without solvent.

Claim 6 (currently amended). ~~Process for preparing a pressure-sensitive adhesive according to at least one of the preceding claims, characterized in that~~ according to claim 4, wherein the preparation takes place without addition of water.

Claim 7 (currently amended). ~~Use of a pressure-sensitive adhesive according to at least one of the preceding claims for producing~~ A self-adhesive articles comprising the pressure-sensitive adhesive of claim 1.

Claim 8 (currently amended). ~~Use of a pressure-sensitive adhesive according to at least one of the preceding claims~~ A method for fixing notes, sheets of paper,

calendar pages, strips, cards or boxes made of paperboard, cardboard or plastic, or small utility articles made of plastic, wood, glass, stone or metal, which comprises fixing same with the pressure-sensitive adhesive of claim 1.

Claim 9 (new). Pressure sensitive adhesive according to claim 1, wherein said ratio of the number of hydroxyl groups in the diol component to the number of hydroxyl groups in the triol component is between 1.5 and 2.5.

Claim 10 (new). Pressure sensitive adhesive according to claim 1, wherein said ratio of the number of isocyanate groups to the total number of hydroxyl groups is between 0.95 and 1.05.

Claim 11 (new). Pressure sensitive adhesive according to claim 1, wherein the molecular weight of said triols which are combined with diols having a molecular weight of less than or equal to 1000 is greater than 3000.

Claim 12 (new). The process of claim 4, wherein said web-from backing material is moving at a constant speed while said reactive polyurethane composition is applied thereto.